REMARKS

Favorable reconsideration and allowance of the present application are respectfully requested.

Claims 1-15 are currently pending in this application. Of these, independent claims 1 and 9 have been amended above to more particularly point out and distinctly claim applicant's inventive subject matter. It is submitted that applicant's claims, particularly as now presented, are fully distinguishable over the prior art.

Claim 1 was rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 5,175,396 to Emery. Claims 2-5 and 9-11 were rejected under 35 U.S.C. § 103 as being unpatentable over Emery in view of U.S. Patent No. 5,661,353 to Erdman. Claims 6 and 12 were rejected under 35 U.S.C. § 103 as being unpatentable over Emery and Erdman, in further view of U.S. Patent No. 2,573,126 to Andrus. Claims 7-8 and 13-14 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Emery in view of U.S. Patent No. 4,160,926 to Cope.

To place the present invention in context, applicant will briefly discuss certain general aspects regarding the production of electric motors. During the manufacture of an electric motor, a cylindrical stator core is typically produced from a plurality

of lamination sheets which have been suitably welded or cleated into a stack. The stator core is configured to have a plurality of winding slots on its inside surface for receipt of winding coils. The stator windings are then placed, by machine or by hand, into the windings slots according to a predetermined winding pattern. An insulative top liner (or "top stick") is situated in each of the slots so as to be radially inward of the windings.

After the windings and top liners have been placed in the slots, the entire stator unit (windings and core) is typically dipped into a varnish to set and protect the stator windings. Some embodiments of the present invention contemplate that the resin material in which the stator unit is dipped can be advantageously selected and applied to produce an adequate layer of insulation for the conductor of the electrostatic shield. The insulative resin layer produced in this manner may then be covered by a conductive layer, preferably formed by a metallic paint, to produce an electrostatic shield. This provides an effective electrostatic shield arrangement which is easily compatible with existing manufacturing techniques.

The conductive layer is applied to the resin material after the entire stator unit has been dipped or otherwise coated with

the resin. This produces a configuration where the conductive layer and underlying insulative layer are conformally located on the surfaces that they cover. Independent claims 1 and 9 have been amended above to emphasize this important distinction.

For example, amended claim 1 now specifically requires the electrostatic shield arrangement to be formed by an insulative layer of resin material covered by a conductive layer located radially inward thereof. The insulative layer and the conductive layer are conformally applied to the stator so as to be located in the winding slots and inside surface of the coilheads to interpose the conductive windings and the rotor. Moreover, the combination of the insulative layer and the conductive layer within a particular winding slot is located radially inward of the respective top liner.

Claim 9, as amended, relates to an electromechanical machine including an insulative layer having a conformal structure characteristic of a resin that had been applied to the stator in an uncured state after the windings were placed in the winding slots of the core. The resin is then cured to yield a predetermined layer thickness between the conductive windings and the rotor. A conductive layer of metallic paint is then applied to the insulative layer such that the conductive paint is

separated from the conductive windings. The insulative layer and the conductive layer thus form an electrostatic shield arrangement interposing the conductive windings and the rotor.

None of the applied art teaches or suggests an electromechanical machine as set forth in independent claims 1 or 9. For example, Emery, the primary reference applied in the Office Action, merely teaches that individual coil windings can be insulated according to its teachings. These coil windings are then assembled into the stator core of an electro-dynamic machine.

This can be seen in Figures 1 and 2 of Emery, which are stated to show a "prior art" arrangement but best illustrate the aspects that are most pertinent to the present discussion. As can be seen, the high voltage coil section 1 includes an array 3 of consolidated copper strands 4. The strands 4 are arranged in rows and columns as shown. One or more ventilation passageways 5 conduct a heat-dissipating gas, such as hydrogen, during operation of the machine.

The array 3 of coil strands 4 is completely covered by an insulating wall structure 7 which includes an insulating layer 26 and a ground wall 27. Ground wall 27 itself includes a mica layer 28 and an outer conductive layer 29 formed from conductive

paint.

As shown in Figure 2 of Emery, the entire coil assembly is then placed into a respective winding slot of the electro-dynamic machine. The top liner (or "top stick") (shown where the arrow of reference number 11 is pointing) is placed radially inward of the coil assembly (i.e., at the "top" of the slot).

Even though the Office Action states that Emery anticipates independent claim 1, that reference clearly does not show an electrostatic shield arrangement located on the inside surface of the coilheads so as to interpose the conductive windings and the rotor (as claim 1 requires).

In addition, independent claim 1 now requires a construction where the insulative and conductive layers are located radially inward of the top stick. Similarly, independent claim 9 requires application of resin to the stator after the conductive windings are placed into the winding slots. This resin is then cured sufficiently to produce an insulative layer to which the metallic paint is bonded. As discussed above, Emery does not show such arrangements.

Erdman, the secondary reference used in the rejection of independent claim 9, does not overcome the deficiencies of Emery. As noted above, claim 9 specifically requires an arrangement

wherein the insulative layer is formed by a resin applied to the stator in an uncured state after the conductive windings were placed in the winding slots. As a result, the insulative layer has a predetermined layer thickness on which a conductive layer of metallic paint can be applied.

The remaining secondary references, Cope and Andrus, also fail to teach or suggest the claimed invention (either alone or in combination with other art). For example, Cope merely teaches that various vacuum impregnation (VPI) techniques are known in the art. Specifically absent from this reference, however, is any discussion of the manner in which an electrostatic shield arrangement could be made. Andrus also fails to teach or suggest the construction of an electrostatic shield arrangement as set forth in applicant's claims.

Applicant is filing herewith a Supplemental Information Disclosure Statement including a copy of the British reference mentioned in the Office Action.

It is believed that the above discussion resolves all issues remaining in the application. Thus, for the sake of brevity, applicant has not made every possible argument that could be advanced against the applied art. The lack of an express argument against a particular aspect of or statement in the

Office Action does not represent an acquiescence in same. In addition, each of the dependent claims is believed to be fully patentable in its respective combination.

Attached hereto is a marked-up version of the changes made to the claims by the current anmendment. The attached page is captioned **"Version with markings to show changes made."**

Inasmuch as all outstanding issues raised by the Examiner have been addressed, it is submitted that the present application, including claims 1-15, is in condition for allowance, and action to such effect is respectfully requested. The Examiner is invited to telephone the undersigned should any minor issues remain after consideration of the present amendment, to permit early resolution of same.

Please charge any additional fee required for consideration of this amendment to our deposit account no. 50-1196.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the claims:

Please amend claims 1, 2 and 9 as follows:

1. (Amended) An electromechanical machine comprising:

a fixed stator having conductive windings located in a plurality of parallel, axially-extending winding slots defined about an inner surface of a magnetically permeable core, said stator further comprising first and second coilheads located at opposite axial ends of said magnetically permeable core;

each of said winding slots including an insulative top liner located radially inward of said conductive windings located therein;

a movable rotor located radially inward of said stator; [and]

an electrostatic shield arrangement [attached to said stator and including a conductive layer separated from said windings by] being formed by an [insulating] insulative layer of resin material[, said shield arrangement being] covered by a conductive layer located radially inward thereof; and

said insulative layer and said conductive layer being

conformally applied to said stator so as to be located in said winding slots radially inward of said respective top liner and an inside surface of said first and second coilheads to interpose said conductive windings and said rotor.

2. (Amended) An electromechanical machine as set forth in claim 1, wherein said conductive layer of said shield arrangement comprises a nonmagnetic conductive material [located radially inward of said insulative layer].

9. (Amended) An electromechanical machine comprising:

a fixed stator having conductive windings located in a plurality of parallel, axially extending winding slots defined in a magnetically permeable core;

a movable rotor operative to have a magnetic flux induced therein by excitation of said conductive windings of said stator;

an insulative layer having a conformal structure characteristic of [said conductive windings having] a [cured] resin that had been applied [thereto] to said stator in an uncured state after said conductive windings were placed in said winding slots and subsequently cured to yield [an insulative layer of] a predetermined layer thickness between said conductive windings and said rotor; and

a conductive layer of metallic paint [applied] bonded to

said insulative layer and thereby separated from said conductive windings, said insulative layer and said conductive layer thereby forming an electrostatic shield arrangement interposing said conductive windings and said rotor.